Heating, Piping & Air Conditioning

January-December 1947 — Vol. 19, Nos. 1-12

Published monthly by the Keeney Publishing Company, 6 N. Michigan Ave., Chicago 2, Ill.

The index to the Journal Section of the American Society of Heating and Ventilating Engineers is separate (see page vii).

This index does not include Equipment Developments; Recent Trade Literature; Meetings & Conventions; Executive Changes; —departments appearing regularly in each issue. The Editor's Pages in each issue include items of news, comments on current events, etc. In the January issue a complete directory section was published covering heating, piping and air conditioning equipment for industry and large buildings.

A

A.C. Job?, What Are the Five Biggest, October ... 106
ASME Announces New Head, November ... 102
ASME, E. G. Bailey to Head, July ... 77
ASTM Standards, Index to 1946, December ... 199
AWS Duties, Magrath Assumes, October ... 66
Accidents, Industrial, Tells How To Prevent, Feb. ... 180
Acoustics?, What's New in, by Vern O. Knudsen, November ... 88
Air, Compressed, How to Figure Moisture in, by L. F. Wilson, November ... 82
Air Condition for Health, Suggests We Abandon "Comfort," and, by Lester T. Avery, December ... 106
Air Condition?, Planning to, May ... 82
Air Condition?, Planning To—Don't Neglect Humidity Control, June ... 96
Air Condition?, Planning to, July ... 76
Air Condition?, Planning to—Electrical and Water Requirements, August ... 81
Air Condition to Prevent Work Stoppages, December ... 67
Air Conditioned, Big Drafting Room, May ... 91
Air Conditioned Engineering Office Planned for Comfort and Efficiency, December ... 79
Air Conditioned, New Candy Plant, July ... 94
Air Conditioned Wax Research Tower Started, December ... 68
Air Conditioning, Big University Enrollments Stress Advantages of, Feb. ... 93
Air Conditioning Costs Have Increased, June ... 94
Air Conditioning Expands Rapidly (Carrier Corp.), Jan. ... 63
Air Conditioning Fire Hazards, 14 Ways to Reduce, by E. C. Hach, Jan. ... 73
Air Conditioning, Forecasts $100 Million Annual Market for Commercial, Industrial, April ... 88
Air Conditioning, Hosiery Manufacturer Finds Many Advantages in, August ... 110
Air Conditioning, Hospital, Outlines Design Procedure for, August ... 188
Air Conditioning, Hotel, Survey Indicates Much, September ... 116
Air Conditioning, Movie, Saves Studios' Money, by Arthur J. Hess, November ... 110
Air Conditioning, NFPA Standards for, Changes Reconsidered, July ... 87
Air Conditioning for Navy Ships Essential, September ... 85
Air Conditioning the New York Stock Exchange, by Donald A. Kepler, April ... 69
Air Conditioning the New York Stock Exchange, by Donald A. Kepler, June ... 84
Air Conditioning the New York Stock Exchange, by Donald A. Kepler, August ... 87
Air Conditioning Plant Operation—Suggests Scale for Rating Methods, by Donald A. Kepler, November ... 92
Air Conditioning and Refrigeration Offer Many Opportunities, Says, Feb. ... 178
Air Conditioning Show, Refrigeration and, Opens in Cleveland January 26, December ... 110
Air Conditioning Standards, ACRMA Compiles, October ... 188
Air Conditioning, Steam for, Discussed by NDHA, by John F. Collins, Jr., August ... 102
Air Conditioning Systems, Annual Hours of Operation of, June ... 93
Air Conditioning in Television, REMA Sees Big Place for, March ... 74
Air Conditioning a Vital Part of Architectural Design (Terrace Plaza Project, Cincinnati), by H. C. Hoffmann, October ... 71
Air Conditioning Year, 1947 Seems To Be Big, September ... 72
Air Conditions Elevator Car, September ... 71
Air Distribution Problem, More Readers Send in Answers to, November ... 103
Air Distribution in a Theater, September ... 113
Air Distribution, Vertical, in Tall Buildings, by William Sturm, June ... 69
Air Distribution, Vertical, in Tall Buildings, by William Sturm, September ... 93
Air, Processed, Important Prop on Hollywood Movie Sets, by Gavin Younkin, September ... 111
Aluminum Alloys, Presents Technical Data on, Feb. ... 180
Aluminum . . . for ducts, March ... 83
Aluminum Ducts, FHA Issues Data on, December ... 99
Aluminum Gages for Ducts, by G. W. Birdsall, May ... 77
Aluminum Gages for Ducts, by W. A. Kuechenberg, June ... 79
Aluminum Gages for Ducts, by Louis L. Narowetz, June ... 78
Aluminum Heat Treatment for Both Technician and Layman, Explains, July ... 204
Andrews, Lale C., Methods of Making Piping Flexibility Analyses—Model Test Method, August ... 73
Antifreeze Protects Cooling Coils, by W. E. Lowell, July ... 85
Apartment Projects, Metropolitan Life, Heating the, by Lewis Smith and William Bessler, September ... 77
Apartments, Garage, How to Heat, by Samuel R. Lewis, June ... 89
Apprenticeship Training, Radiant Heating, Considered at Contractors' Annual Meeting, August ... 95
"Aran" to Become Air Conditioning Factor?, October ... 66
Architectural Design, Air Conditioning a Vital Part of, by H. C. Hoffmann, October ... 71
Army Needs Civilian Engineers for Overseas, August ... 82
Assistants, Smart; Success Tip—Pick, December ... 67
Associations Elect New Officers, April ... 63
Avery, Lester T., Construction . . . It Is an Industry! Feb ... 86
Avery, Lester T., and Jim Black, Foundry Ventilation, March ... 71
Avery, Lester T., and Black, Jim, Foundry Ventilation, April ... 78
Avery, Lester T., and Jim Black, Foundry Ventilation, May ... 89
Avery, Lester T., Recirculate Air from Industrial Exhaust Systems?, September ... 120
Avery, Lester T., Suggests We Abandon "Comfort," and Air Condition for Health, December ... 106

B

Bank Heating System, Remodels, Without Interrupting Service, Feb ... 81
Baseboards, Radiant, Advantages of, June ... 95
Basementless Structures, U. of I. Testing, September ... 71
Battista, William P., Semi-Lateral Tank Ventilation Hood Controls Contamination, Cuts Costs, Jan ... 85
Bearings, Presents Data on Testing of, April ... 182
Bends, Mitre, Susceptible to Fatigue, Finds, April ... 182
Bessler, William, and Smith, Lewis, Heating the Metropolitan Life Apartment Projects, September ... 77
Best & Co., New York, Installs Sidewalk Snow Melting System, by Harry H. Bond, September ... 90
Biggest A.C. Jobs?, What Are the Five, October ... 106
Bill, Proposed, Regulates Temperatures, Humidity, November ... 70
Biotechnology Is New Training For Engineers, June ... 63
Birdsall, G. W., Aluminum Gages for Ducts, May ... 77
Black, Jim, and Lester T. Avery, Foundry Ventilation, March ... 71
Black, Jim, and Avery, Lester T., Foundry Ventilation, April ... 78
Black, Jim, and Les Avery, Foundry Ventilation, May ... 89
Blowers and Exhaust Systems, Revises Standards for Installation of, August ... 188
Bodinus, W. S., Vertical Air Distribution, October ... 96
Boiler Code Section Is Being Revised by ASME, March ... 86
Boiler Fireboxes, Redesigning, by Robert H. Wilder and Kalman Steiner, Jan ... 69
Boiler Plant To Be Modernized, by Samuel R. Lewis, November ... 101
Boiler, Radiator Backlog, Tremendous, Jan ... 94
Boiler, Steel, Output Reaches All-Time High, August ... 98
Boiler Water, Utilizes Btu's in, for Night Heating of Rectory, by Irwin W. Cotton, November ... 114
Boilers, Cast Iron, Gives I-B-R Ratings for, November ... 216
Boilers, Conditioning Equipment Hoisted to Top of Big Building, March ... 93
Boilers, Hot Water Supply, Standard on Recommended, July ... 204
Bolts, Cast, for Pipe Joints Economically Mass-Produced, October ... 188
Bond, Harry H., Best & Co., New York, Installs Sidewalk Snow Melting System, September ... 90
Bowser, L. S., How to Weld Lead Pipe, September ... 91
Brandt, Allen D., Should Air Be Recirculated from Industrial Exhaust Systems?, August ... 69
Builders, and Engineers, Report Large Volume, Feb ... 64
Building Restrictions, Remove, Says BPI, June ... 64
Building Technology Division, September ... 110
Building Year In History Seen, Biggest, Feb ... 63
Burner Nozzle Varies, Why Flow Through, Feb ... 97
Burner, Varying Oil Rate with Gun Type, Feb ... 97
Bus and Train Conditioning, Space, Weight Govern, April ... 73
Business Outlook, Pipe Welding, July ... 88
Business This Year, Sees Alltime High, November ... 96

C

Candler, George L., Clean Your Ducts for Better Results!, July ... 83

Candy Plant, New, Air Conditioned, July 94
Candy Plants, ASRE Issues Pamphlet on Conditioning for, Oct..... 192
Carlier, Henry, Methods of Making Piping Flexibility Analyses, September 86
Carrier, Dr., Lists 20 "Major Advances", July 64
Central Refrigeration, Steam for Chicago?, June 63
Central Steam Demands, Meets Increased, with 4800 Ft. Tie Line, by Julius J. Schenk and R. H. McCumber, April 74
Clancy, G. E., How to Use Groundwater Without Pumping It from Well, December 90
Clancy, G. E., Water from Wells, November 75
Clarke, John H., Design Engineer Reports on Operating Experience, Jan. 76
Clarke, John H., Design Engineer Reports on Operating Experience, Feb. 82
Clarke, John H., Design Engineer Reports on Operating Experience, March 84
Clarke, John H., Design Engineer Reports on Operating Experience, April 89
Clarke, John H., Design Engineer Reports on Operating Experience, May 92
Clarke, John H., Design Engineer Reports on Operating Experience, June 79
Clarke, John H., Design Engineer Reports on Operating Experience, August 83
Clarke, John H., Design Engineer Reports on Operating Experience, September 100
Clarke, John H., Design Engineer Reports on Operating Experience, October 91
Clarke, John H., Design Engineer Reports on Operating Experience, November 97
Clarke, John H., Design Engineer Reports on Operating Experience, December 86
Clean, This Building Must Be, April 87
Clean Your Ducts for Better Results!, by George L. Candler, July 83
Cleaned, Electrically, Garden Air, October 96
Close, Paul D., Conductivities and Conductances of Building Materials and Insulations, Jan..... 101
Close, Paul D., Conductivities and Conductances of Building Materials and Insulations, Feb..... 99
Close, Paul D., Conductivities and Conductances of Building Materials and Insulations, March..... 101
Close, Paul D., Conductivities and Conductances of Building Materials and Insulations, April..... 101
Close, Paul D., Conductivities and Conductances of Building Materials and Insulations, May..... 101
Coal and Coke, ASTM Standards on, December..... 198
Coal for Plant Heating, Silos Store, May 81
Coal, Research on Uses of, Continues, August..... 64
Coal, Underground Gasification of, September 107
Coffey, George B., Gives Dope on Airport Snow Removal with Heat at Road Builders' Meeting, March 79
Coils, Antifreeze Protects Cooling Coils, by W. E. Lowell, July..... 85
Coils, Cooling, Simplified Figuring of, Too Often Unsatisfactory, December 102
Cold Air from Same Pipe, Hot Air and, May..... 94
Collins, John F., Jr., Corrosion in Condensate Return Lines Studied —NDHA Meeting, September..... 108
Collins, Jr., John F., Steam for Air Conditioning Discussed by NDHA, August 102
Combustion, Reading, 'Riting, and 'Rithmetic, November..... 91
Compressed Air, Moisture in, How to Figure, by L. F. Wilson, November 82
Compressors, Air, Standard, Dec..... 107
Compressors, Air and Gas. Handbook Includes New Data, Standards on, September..... 213
Condensate, Flue Gas, Literature Review on Corrosion of Metals and Materials, November..... 218
Condensate Return Lines, Corrosion in, Studied — NDHA Meeting, by John F. Collins, Jr., September.... 108
Condensation on Confectionery Window?, How Stop, Feb..... 98
Condensation on Confectionery Window, How to Stop, April..... 98
Condensation Problems Serious With Indoor Swimming Pools, by Samuel R. Lewis, May..... 99
Condensation Problems, Swimming Pool, June..... 78
Condensation on Store Windows, Preventing, May..... 96
Condensation, Preventing, on Store Windows, July..... 100
Condensation in Walls, Vapor Barriers Studied. Feb..... 77
Condensing Unit Standard, Date Postponed for, March..... 100
Condensing Unit Standard Effective, Feb. 64
Condensing Unit Standard Progresses, December..... 85
Condensing Unit Standard Withdrawn, October..... 66
Conditioning, Cites Reasons for Planned, by C. Robert Cheyney, March 97
Conditioning Equipment, Boilers, Hoisted to Top of Big Building, March 93
Conditioning, Gets Permission to Restrict, August..... 106
Conditioning Installation, Occupants Not Inconvenienced During, by James A. Evans, Feb..... 69
Conditioning, Train and Bus, Space, Weight Govern, April..... 73
Conductivities and Conductances of Building Materials and Insulations, by Paul D. Close, Jan..... 101
Conductivities and Conductances of Building Materials and Insulations, by Paul D. Close, Feb..... 99
Conductivities and Conductances of Building Materials and Insulations, by Paul D. Close, March..... 101
Conductivities and Conductances of Building Materials and Insulations, by Paul D. Close, April..... 101
Conductivities and Conductances of Building Materials and Insulations, by Paul D. Close, May..... 101
Construction . . . It Is An Industry!, by Lester T. Avery, Feb..... 86
Construction Commitments, Increase in, Revealed, September..... 71
Construction Cost Peak Been Reached?, Has, May..... 63
Construction Drive, New York Launches, August..... 63
Construction Materials Show Gain, December 105
Construction, New '48, Estimated Up 13%, December..... 68
Construction Recession Due To Rise In Costs, June..... 63
Construction, Record-Breaking '47, Seen, Jan..... 95
Construction Slightly Under '46, Says Dodge, December..... 68
Contractors' Annual Meeting, Radiant Heating, Apprenticeship Training Considered at, August.... 95
Control, How to, Zoned Unit Heater System, December..... 94
Control Industry to Expand in 1947 (Minneapolis-Honeywell Regulator Co.), Jan..... 64
Control, Unit Heater, Practical Suggestions on, May..... 95
Convector Production Rises Sharply, May..... 64
Convention, Quick Picture of the, Feb. 90
Cooling?, Panel, Dehumidify Air for, by James A. Evans, April..... 96
Cooling, Radiant, Must Be Designed Properly, R. G. Vanderwell, April, ... 96
Corridors, Proposes Prohibiting Return Air in, April..... 63
Corrosion in Condensate Return Lines Studied — NDHA Meeting, by John F. Collins, Jr., September 108
Corrosion Losses, Novel Protective Means Reduce, Jan..... 98
Costs, Air Conditioning, Have Increased; June 94
Costs, Building Better Specs Cut, November 69
Costs, Stabilized, at January Level Seen, September..... 71
Cotton, Irwin W., Utilizes Btu's in Boiler Water for Night Heating of Rectory, November..... 114
Courtways, Intakes, Outlets in, Can Lead to Plenty of "Grief", by Samuel R. Lewis, August..... 105
Crocker, Sabin, Joins Ebasco Services, Inc., November..... 71
Crocker, Wagner Assume New Duties, May..... 64
Customer is Boss", "The, June..... 64

D

Data File, Loose-Leaf Notebooks for, December 107
DeHart, R. C., Methods of Making Piping Flexibility Analyses—Moment Distribution Method, January 91
Demineralized Water—the Process, June 91
Design Engineer Reports on Operating Experience, by John H. Clarke, Jan. 76
Design Engineer Reports on Operating Experience, by John H. Clarke, Feb. 82
Design Engineer Reports on Operating Experience, by John H. Clarke, March 84
Design Engineer Reports on Operating Experience, by John H. Clarke, April 89
Design Engineer Reports on Operating Experience, by John H. Clarke, May 92
Design Engineer Reports on Operating Experience, by John H. Clarke, June 79
Design Engineer Reports on Operating Experience, by John H. Clarke, August 83
Design Engineer Reports on Operating Experience, by John H. Clarke, September 100
Design Engineer Reports on Operating Experience, by John H. Clarke, October 91
Design Engineer Reports on Operating Experience, by John H. Clarke, November 97
Design Engineer Reports on Operating Experience, by John H. Clarke, December 86
Diesel-Driven Units Studied, Finds Heat Pump Economical in the South, November 212
Dining Room, Night Club, Same System Serves, April 81
Direct Fired Units Meet Changed Heating Needs, by Arnold A. Kosarin, August 92
Directory, 1947, of Heating, Piping, and Air Conditioning Equipment for Industrial, Commercial, Institutional, and Public Buildings, January 241
Directory Section Appears In January, November 69
Dirt Marks, 1 Deg Difference Causes, July 77
Disinfecting Air in Hospitals Presents Many Problems, September 212
Distribution Problem, Air, More Readers Send In Answers to, November 103
Dittman, Gerald C., Individual Heating-Cooling Ducts Supply Each Room of New Building, December 82
Doremus, R. C., Every Contractor Runs Into Liquid Line Troubles, November 110
Drafting Room Air Conditioned, Big, May 91
Duct Equivalents, Slide Rule Is All That's Needed To Figure, by Peter Franck, May 76
Ducts, Aluminum for, March..... 83
Ducts, Aluminum, Gages for, by G. W. Birdsall, May..... 77
Ducts, Aluminum Gages for, by W. A. Kuechenberg, June..... 78
Ducts, Aluminum Gages for, by Louis L. Narowetz, June..... 78
Ducts, Individual Heating-Cooling, Supply Each Room of New Building, by Gerald C. Dittman, Dec... 82
Ducts, Your, Clean for Better Results!, by George L. Candler, July 83
Dust Particles, Says Terminal Velocity Method of Measuring Is Most Useful, January 84
"Dynamic Phase," Entering a (Johns-Manville Corp.), Jan..... 63

E

Economic Outlook, "Qualified Optimism" Is, April 93
Educational Building Lots Of, Predicted, October 65
Electric Radiant Heating Economically Practical With 1c Rate, July 203
Electrical Symbols, Standard Gives, May 64
Electrical and Water Requirements —Planning to Air Condition?, August 81
Elevator Car, Air Conditions, September 71
Elfreth, H. D., and MacHarg, A., Eliminating Fuel Waste, Oct. ... 86

Ellis, Bruce W., Centrifugal Pump Fundamentals, January 90
Engh Named President, General Manager, July 64
Evans, B. G., Preventive Maintenance, Spare Parts Important, December 103
Evans, James A., Dehumidify Air For Panel Cooling?, April 96
Evans, James A., Occupants Not Inconvenienced During Conditioning Installation, Feb. 69
Exhaust Opening, Wrong, Can Cause Ventilating Troubles, by Samuel R. Lewis, April 94
Exhaust Systems, Blowers, Revises Standards for Installation of, August 188
Exhaust Systems?, Industrial, Recirculate Air from, by Lester T. Avery, September 120
Exhaust Systems?, Industrial, Should Air Be Recirculated from, by Allen D. Brandt, August..... 69

F

Factory Building, Standardized, Unit Heaters, Finned Pipe Radiation for, April 77
Fatigue, Finds Mitre Bends More Susceptible to, April 182
Ferrill, H. E., Don't Overlook Importance of Proper Size Liquid Lines, October 84
Ferrill, H. E., Fluid Flow's Relation to Installation and Operation, March 80
Ferrill, H. E., Fluid Flow's Relation to Installation and Operation, May 86
Filing Engineering Information, Here Are Ideas for, Nov. 105
Filing Plans in an Engineering Office, by Samuel R. Lewis, March 94
Fire Hazards, Air Conditioning, 14 Ways to Reduce, by E. C. Hach, January 73
Fire Prevention Methods for Management, Employees, Outlines, November 216
Fire Vent Flues and Ducts Recommends, May 88
Fireboxes, Boilers, Redesigning, by Robert H. Wilder and Kalman Steiner, January 69
Fitting, Pipe, Production, Expert More, May 84
Five Day Week for Building Industry, June 64
Flannery, E. M., Heads REMA, May 64
Flexibility Analyses, Piping, Methods of Making, by Henry Carlier, September 86
Flexibility Analyses, Piping, Methods of Making, by H. V. Wallstrom, May 69
Flexibility Analyses, Piping, Methods of Making — Model Test Method, by Lale C. Andrews, August 73
Flexibility Analyses, Piping, Methods of Making—Moment Distribution Method, by R. C. DeHart, January 91
Flow's, Fluid, Relation to Installation and Operation, by H. E. Ferrill, March 80
Flow's, Fluid, Relation to Installation and Operation, by H. E. Ferrill, May 86
Flue Gas Condensate, Corrosion of Metals and Materials, Literature Review on, November 218
Fluid Flow in Pipes—Its Formulas, Physical Properties and Their Dimensions, October 194
Foundry Ventilation, by Jim Black and Lester T. Avery, March..... 71
Foundry Ventilation, by Jim Black and Lester T. Avery, April..... 78
Foundry Ventilation, by Jim Black and Les Avery, May 89
Foundry Ventilation, by John M. Kane, July 95
Franck, Peter, Slide Rule Is All That's Needed To Figure Duct Equivalents, May 76
Franks, Edwin I., Charts Help to Solve Lighting Problems, Sept... 103
"Freon-12", Condensation of, with Finned Tubes, October 194
Fuel Forecast . . . and What To Do About It, by Kalman Steiner, October 78
Fuel Oil Outlook, Summarizes, July 80
Fuel Oils, Testing and Rating, July 95
Fuel Research, Trends in, Dec..... 199
Fuel, Save This Winter, Stop Building Leaks to, by Eph. A. Tyler, November 90
Fuel Saving Data From Bureau of Mines, November 102
Fuel Waste, Eliminating, by H. D. Elfreth and A. MacHarg, Oct..... 86

G

Gage, Fluorescent Paint, Black Light Improve, April 95
Garage Heating Job, Reader Wants Criticism of, January 97
Garage, How to Heat Office Room in Steam Heated, March 98
Garage, How to Heat Office Room in Steam Heated, April 100
Garden Air Cleaned Electrically, October 96
Gas from Coal, Developing Process to Make, May 100
Gas Interruptions, Propane Storage and Piping System Frees Plant from, September 83
Gas, Natural, Stored Underground in Steel Pipe, August 77
Gas Revenues Gain 18.1 Per Cent, October 90
Gas Sales Rise Sharply, May..... 98
Gas Service, Plastic Tubing Used for, December 101
Gas Utilities to Spend a Billion, June 64
Gaseous Fuels Fellowship, Establishes, February 85
Gasification of Coal, Underground, September 107
Getting Heat Down to the Floor, by O. W. Ott, May 75
Giesecke, Dr., Publishes Book on Hot Water Heating, Radiant Heating, Radiant Cooling, May.. 192
Government, How to Sell to the, Journal of Commerce Advises on, November 216
Graphitization, Data Supports 1400 F Postweld Treatment for Preventing, January 79
Graphitization of Piping, July..... 72
Graphitization of Steel at Elevated Temperatures, December 108
Groundwater, How To Use, Without Pumping It from Well, by G. E. Clancy, December..... 90

H

Hach, E. C., 14 Ways to Reduce Air Conditioning Fire Hazards, Jan.. 73
He Cuts 'Em Up, Jan..... 100
Health, Air Condition for, Suggests We Abandon "Comfort," and, by Lester T. Avery, December..... 106
Heat, Conduction of in Solids, October 194
Heat Down to the Floor, Getting, by O. W. Ott, May..... 75
Heat Garage Apartments, How to, by Samuel R. Lewis, June..... 89
Heat Loss from Underground Walls Data on, Given in Air Conditioning Report, by Cyril Tasker, March 96
Heat Office Room in Steam Heated Garage, How to, April..... 100
Heat Power Text Emphasizes Energy Balance and Conservation, April 184
Heat Pump, Continuous Air Conditioning With the, December..... 198
Heat Pump Cools Submarines, March 92
Heat Pump Cycle Using a Ground Coil, June 92
Heat Pump Data, Readers Ask for, September 72
Heat Pump Economical in the South — Diesel-Driven Units Studied, November 212
Heat Pump, Heat Sources for the, by Emory N. Kemler, Jan..... 80
Heat Pump in Midwest, Economic Problems Face, October..... 66
Heat Pump "Practical," Finds the, July 197
Heat Pump Requires 1½c Rate to Compete on Cost, Says, April... 76
Heat Pump, Says Any Source of Low Grade Heat Can Be Used for, August 187
Heat Pumps, Big Portland Buildings To Use, April..... 76
Heat Transfer Data from Wartime Studies, New, July 91
Heated with Air, Ceiling Panels, June 94
Heating, A. C. Divisions Expand, February 64
Heating, Air Conditioning Text, Popular, Revised in 6th Edition, March 202
Heating Design, Practical Pointers on, by R. G. Vanderweil, July... 69
Heating Design, Radiant, Practical Pointers on, by R. G. Vanderweil, September 97
Heating Distributors, Unique System Serves, July 78
Heating the Metropolitan Life Apartment Projects, by Lewis Smith and William Bessler, September 77
Heating Needs, Changed, Direct Fired Units Meet, by Arnold A. Kosarin, August 92
Heating is Problem of Transportation, November 69
Heating, Radiant, Apprenticeship Training Considered at Contractors' Annual Meeting, Aug..... 95
(Heating, Radiant) Complete Honesty Answer to Many Controversies, by D. L. Mills, Nov..... 109
Heating, Radiant, Disagrees on Many Questions, by Paul S. Park, November 107
Heating (Radiant) Questions, Let's "Ventilate" These, by Samuel R. Lewis, October 102
Heating, Radiant, for —32 F Weather, December 78
Heating, Radiant, Time Lag in, by Warren E. Wilson, April..... 82
Heating System, Bank, Remodels Without Interrupting Service, February 81
Heating System, Radiant Panel, Solves Textile Plant Problems, by G. Lorne Wiggs, March..... 75
Heating in the U. S. A., by Cyril Tasker, February 79
Hess, Arthur J., Movie Air Conditioning Saves Studios' Money, November 110
Hewitt Named General Manager, May 74
Higgs, B. H., Pipe Layout Simplified, February 72
High Pressure Hot Water Heating, by Cyril Tasker, February..... 78
High Pressure Hot Water Serves Hospital Project, by Frank H. Slade, October 87
High Temperature Water for Radiant Heating System, June..... 73
Hoffman, H. C., Air Conditioning a Vital Part of Architectural Design, October 71
Holland Honored by, for War Work, August 64
Hosiery Manufacturer Finds Many Advantages in Air Conditioning, August 110
Hospital Air Conditioning, Outlines Design Procedure for, August... 188
Hospital Project, High Pressure Hot Water Serves, by Frank H. Slade, October 87
Hospitals, Disinfecting Air in, Presents Many Problems, Sept... 212
Hot Air and Cold Air from Same Pipe, May 94
Hot Water Heating, High Pressure, by Cyril Tasker, February..... 78
Hot Water Heating, Radiant Heating, Radiant Cooling; Dr. Giesecke Publishes Book on, May... 192
Hit Water, High Pressure, Serves Hospital Project, by Frank H. Slade, October 87
Hotel Air Conditioning, Survey Indicates Much, September..... 116
Hotel's "Lifeblood," Heat and Cold Are, September 89
Humidity Control, Don't Neglect—Planning to Air Condition?, June 96
Hutchinson, F. W., Analyzing Refrigeration Cycles, May..... 79
Hyde, Percy A., New Underground Tie Line Boosts Tail-End Pressure, November 94
Hydraulic Measurement Methods, Describes, June 188

I

ICI Goes on Inactive Basis, Jan... 100
Identifying Piping Systems, July.. 81
Ihrig, H. K., Receives Metallurgical Award, May 74
Individual Heating-Cooling Ducts Supply Each Room of New Building, by Gerald C. Dittman, Dec.. 82
Individualism, Engineers Advised to Encourage, February..... 96
Infra-Red Radiation, How (It) Is Used for Space Heating, by Cyril Tasker, October 104
Insulated Overhead Pipe Line Solves a Plant Steam Problem, February 91
Insulating Board, Recommends Vapor Resistant Coatings for, January 79
Insulating Condensate Line Prevents Burns, October 65
Insulation, Low Temperature, Offers Data on How to Select, September 213

Insulation, Mineral Wool Block and Board, Specifications Cover, July 200
Insulation, Pipe, Tells How to Care for, October 103
Insulations, Building, Data on Given in Semi-Technical Discussion, July 198
Insulations, Building Materials and, Conductivities and Conductances of, by Paul D. Close, Jan..... 101
Insulations and Building Materials, Conductivities and Conductances of, by Paul D. Close, Feb..... 99
Insulations and Building Materials, Conductivities and Conductances of, by Paul D. Close, March..... 101
Insulations and Building Materials, Conductivities and Conductances of, by Paul D. Close, April..... 101
Insulations and Building Materials, Conductivities and Conductances of, by Paul D. Close, May..... 101
Intakes, Outlets in Courtways Can Lead to Plenty of "Grief," by Samuel R. Lewis, August..... 105
Intakes, Theater Return Air, Readers Answer Question on, August 107

J

Joints, Pipe, Selection of—Stainless Steel Piping, by J. D. Mattimore, November 84
Joints, Selection of, Stainless Steel Piping—, December 89

K

Kane, John M., Foundry Ventilation, July 95
Kaufman, G. T., Smoking Tendency Determines Burning Oil Performance, May 78
Kemler, Emory N., Heat Sources for the Heat Pump, January.... 80
Kepler, D. A., Air Conditioning the New York Stock Exchange, April 69
Kepler, Donald A., Air Conditioning the New York Stock Exchange, June 84
Kepler, Donald A., Air Conditioning the New York Stock Exchange, August 87
Kepler, Donald A., Air Conditioning Plant Operation—Suggests Scale for Rating Methods, Nov... 92
Kilns, Drying, Figuring Heat Losses for Two, January..... 96
Kilns, Figuring Btu Load for Drying, February 98
Kirkwood, A. C., Announces New Engineering Firm, April 63
Knudsen, Vern O., What's New in Acoustics?, November..... 88
Kodak Park, 85-Below-Zero Refrigeration System Being Installed at, July..... 80
Kosarin, Arnold A., Direct Fired Units Meet Changed Heating Needs, August 92
Kuechenberg, W. A., Aluminum Gages for Ducts, June..... 78

L

Lag, Time, in Radiant Heating, by Warren E. Wilson, April..... 82
Lammers, H. B., Employ Engineering to Correct the Individual Smoke Problem, December..... 100
Lammers, H. B., "Low Volatile" Smoke Ordinance Does Not Solve Problem, November 80
Lang, Hans J., Pipe Coils Embedded in Concrete Mat Heat Tank, Aug. 94
Launderette Comfort Problem, Unit Heater and Fan Solve a, July.... 71
Laundry Process Intrigues Engineer, by Samuel R. Lewis, Jan... 99
Lead Pipe, How to Weld, by L. S. Bowser, September 91
Leaks, Building Heat, Stop to Save Fuel This Winter, by Eph. A. Tyler, November..... 90
Leeds, ASME Honors Morris E., March 92
Lewis, Samuel R., Boiler Plant To Be Modernized, November..... 101
Lewis, Samuel R., Condensation Problems Serious with Indoor Swimming Pools, May 99
Lewis, Samuel R., Filing Plans in an Engineering Office, March.... 94
Lewis, Samuel R., How to Heat Garage Apartments, June 89
Lewis, Samuel R., "I Learn Most from Trouble Jobs," February... 95
Lewis, Samuel R., Intakes, Outlets in Courtways Can Lead to Plenty of "Grief," August 105
Lewis, Samuel R., Is One Pipe Steam System Better Than Two Pipe?, September 115
Lewis, Samuel R., Laundry Process Intrigues Engineer, January.... 99
Lewis, Samuel R., "Lazy" Zoning Causes Heating, Cooling Troubles, July 86
Lewis, Samuel R., Let's "Ventilate" These (Radiant) Heating Questions, October 102
Lewis, Samuel R., Reheaters for Each Supply Register Improve Heating and Cooling System, December 98
Lewis, Samuel R., Wrong Exhaust Opening Can Cause Ventilating Troubles, April 94
Liberal Arts, Engineering Course Emphasizes, February 71
Lighting Problems, Charts Help to Solve, by Edwin I. Franks, September 103
Lighting Problems, Charts Help Solve, by C. E. Weitz, October... 96
Liquid Line Troubles, Every Contractor Runs Into, by R. C. Doremus, November 110
Liquid Lines, Proper Size, Don't Overlook Importance of, by H. E. Ferrill, October 84
Longner, Edward W., Check Operation of Steam Traps, April..... 86
Lowell, W. E., Antifreeze Protects Cooling Coils, July 85

M

MacHarg, A., and Elfreth, H. D., Eliminating Fuel Waste, Oct.... 86
Magazine Articles, Keeping for Future Reference October 97
Maintenance, Preventive, Spare Parts Important, by B. G. Evans, December 103
Market for Commercial, Industrial Air Conditioning, Forecasts $100 Million Annual, April 88
Mattimore, J. D., Stainless Steel Piping—Fabrication by Welding, December 73
Mattimore, J. D., Stainless Steel Piping—Selection of Pipe Joints, November 84
Mattimore, J. D., Stainless Steel Piping—Why and Where to Use It, October 81
McCumber, R. H. and Schenk, Julius J., Meets Increased Central Steam Demands With 4800 Ft Tie Line, April 74
McCutchan Assumes New Duties, Arthur, February 96
McLaughlin, E. R., and Queer, E. R., Vapor Pressure—What It Is and Does, August 78
Menden, J. P., Unit Heaters Have Advantages in Many Heating Applications, March 87
Metals, Methods of Analyzing, Issues New Book on, Feb..... 77
Metropolitan Life Apartment Projects, Heating the, by Lewis Smith and William Bessler, Sept..... 77
Midwest Power Conference; Heating, Piping, and Air Conditioning Featured at, June..... 90
Mills, D. L., Complete Honesty Answer to Many Questions (Radiant Heating), Nov..... 109
Mills, D. L., Output of Heating Panels, August 109
Mines, Bureau of, Fuel Saving Data from, November 102
Model Test Method—Methods of Making Piping Flexibility Analyses, by Lale C. Andrews, Aug... 73
Modernized, Boiler Plant To Be, by Samuel R. Lewis, November.. 101
Moisture in Compressed Air, How to Figure, by L. F. Wilson, Nov. 82
Motor Standards Include Integral Horsepower Hermetic Type, July 220
Movie Air Conditioning Saves Studios' Money, by Arthur J. Hess, November 110
Movie Sets, Hollywood, Processed Air Important Prop on, by Gavin Younkin, September 111

N

NDHA Meeting—Corrosion in Condensate Return Lines Studied, by John F. Collins, Jr., Sept..... 108
NDHA, Steam for Air Conditioning Discussed by, John F. Collins, Jr., August 102
NFPA Standards for Air Conditioning, Changes in, Reconsidered, July 87
Naman, I. A., Gas Flow from Steel Stacks, July 96
Narowetz, Louis L., Aluminum Gages for Ducts, June..... 78
New York University Offers Evening Work, October 77
Night Heating of Rectory, Utilizes Btu's in Boiler Water for, by Irwin W. Cotton, Nov..... 114
Nonferrous Metals, Symposium on Atmospheric Exposure Tests on, August 190
Nozzles, HEI Standard Flow, History of the Development, Manufacture, and Calibration of, November 218

O

Office, Engineering, Air Conditioned, Planned for Comfort and Efficiency, December 79
Oil Burner, Storage Tank Installations, Gives Minimum Requirements for, December..... 197
Oil Burners, Nos. 5 & 6 Oil, No Radical Changes in, Says OHI Secretary, January 89
Oil, Burning, Performance, Smoking Tendency Determines, by G. T. Kaufman, May..... 78
Oil Shortage, Suggests Way to Beat, September 82
Oil Tanks, Fill Now, Says OHI, August 63
Oils, Develops Unit For Testing Fuel, February 94
Operating Experience, Design Engineer Reports on, by John H. Clarke, January 76
Operating Experience, Design Engineer Reports on, by John H. Clarke, February 82
Operating Experience, Design Engineer Reports on, by John H. Clarke, March 84
Operating Experience, Design Engineer Reports on, by John H. Clarke, April 89
Operating Experience, Design Engineer Reports on, by John H. Clarke, May 92
Operating Experience, Design Engineer Reports on, by John H. Clarke, June 79
Operating Experience, Design Engineer Reports on, by John H. Clarke, August 83
Operating Experience, Design Engineer Reports on, by John H. Clarke, September 100
Operating Experience, Design Engineer Reports on, by John H. Clarke, October 91
Operating Experience, Design Engineer Reports on, by John H. Clarke, November 97
Operating Experience, Design Engineer Reports on, by John H. Clarke, December 86
Operation, Air Conditioning Plant —Suggests Scale for Rating Methods, by Donald A. Kepler, November 92
Operation, Annual Hours of Air Conditioning Systems, June..... 93
"Operation Pluto," Decorated for Work on, May 98
Operation of Steam Traps, Check, by Edward W. Longner, April... 86
Ott, O. W., Getting Heat Down to the Floor, May 75
Overfire Air Jet Data for Commercial, Industrial Plants, Provides, December 197
Overfire Air Jets, Provides Design Data for, February..... 92
Overfire Jets and Controls for Locomotive Smoke Abatement, December 199

P

Panel Cooling, Refrigerating Engineers Hear Two Talks on, July 92
Panel Heat Output and Temperatures, by Paul S. Park, August.. 110
Panel Heating and Cooling Systems, Covers Theory, Design Approximations for, April 180
Panels, Ceiling, Heated with Air, June 94
Panels, Heating, Output of, by D. L. Mills, August 109
Park, Paul S., Disagrees on Many Radiant Heating Questions, Nov. 107
Park, Paul S., How to Design Snow Melting Coils, January 97
Park, Paul S., Ice Rink Piping Fails During Wartime Shutdown, April 97
Park, Paul S., Panel Heat Output and Temperatures, August..... 109
Physiological Problems Facing Air Conditioning Engineers, Outlines, November 214
Pipe Coils Embedded in Concrete Mat Heat Tank, by Hans J. Lang, August 94
Pipe Fitting Standard, Industry Approves, September 214

Pipe and Fittings, Stainless, Starts Standardization of, March..... 89
Pipe Group, Steel, Elected to Head, September 92
Pipe, How to Weld Lead, by L. S. Bowser, September 91
Pipe Insulation, Tells How to Care for, October 103
Pipe Layout Simplified, by B. H. Higgs, February 72
Pipe Line, Insulated Overhead, Solves a Plant Steam Problem, February 91
Pipe Line, Rubber, Plane Lays, July 77
Pipe Order Books Full to 1950..... 82
Pipe, Steel, Natural Gas Stored Underground in, August 77
Pipe Welding, Business Outlook, July 88
Piping Flexibility Analyses, Methods of Making, by Henry Carlier, September 86
Piping Flexibility Analyses, Methods of Making, by H. V. Wallstrom, May 69
Piping Flexibility Analyses, Methods of Making, Model Test Method, by Lale C. Andrews, August 73
Piping Flexibility Analyses, Methods of Making—Moment Distribution Method, by R. C. DeHart, January 91
Piping, Graphitization of, July.... 72
Piping, High Temperature, Materials for, June..... 90
Piping, Ice Rink, Fails During Wartime Shutdown, by Paul S. Park, April 97
Piping Materials, New Specifications Cover Many Steel, March.. 202
Piping Men Win Dow Awards, April 63
Piping, Pressure, American Standard Code for, Supplement No. 2 to 1942 Edition of, October..... 192
Piping, Refrigeration, 85-Below-Zero, October 95
Piping, Stainless Steel — Fabrication by Welding, by J. D. Mattimore, December 73
Piping, Stainless Steel—Selection of Pipe Joints, by J. D. Mattimore, November 84
Piping, Stainless Steel—Selection of Pipe Joints, December..... 89
Piping, Stainless Steel—Why and Where to Use It, by J. D. Mattimore, October 81
Piping Standardization, Reports on Status of, May 63
Piping System, Propane Storage and, Frees Plant from Gas Interruptions, September 83
Piping Systems, Identifying, July. 81
Piping Tunnel for New Diesel Plant, 700 Ft., June 97
Plane Lays Rubber Pipe Line, July 77
Plastic Tubing Used for Gas Service, December 101
Pool, E. B., Pressure Losses in Valves, June 74
Postwar Expansion Way Above Prewar, November 70
Pressure Losses in Valves, by E. B. Pool, June..... 74
Problem, Industry's No. 1, for 1947 Summarized (Westinghouse Electric Corp.), January 63
Priducers' Council, D. S. Miller Heads, November..... 70
Productivity Is Key to Future Welfare, August 86
Propane Storage and Piping System Frees Plant from Gas Interruptions, September 83
Pump, Centrifugal, Fundamentals, by Bruce W. Ellis, January..... 90
Pump Construction, Boiler Feed, Materials for, June 95
Pump, Heat, Heat Sources for the, by Emory N. Kemler, January... 80
Pump Tops All U. S. Machines, April 95
Psychrometric Charts Cover Low, Normal, High Temperatures, December 198

Q

Queer, E. R., and McLaughlin, E. R., Vapor Pressure—What It Is and Does, August..... 78
Question of the Month, June..... 83
Quonset-type Factory Buildings, Rushes, February 96

R

REMA Plans Exposition Every Other January, Feb. 64
Radiant Cooling, Can't See, by Will D. Sampson, March..... 91
Radiant Cooling Must Be Designed Properly, by R. G. Vanderweil, April 96
Radiant Heat," "Four Ways to Get, July 63
Radiant Heating, Apprenticeship Training Considered at Contractors' Annual Meeting, August... 95
(Radiant Heating) Complete Honesty Answer to Many Controversies, by D. L. Mills, Nov..... 109
Radiant Heating, Cooling; Prefabricated Floors and Ceilings Used in, July 197
Radiant Heating Design, Practical Pointers on, by R. G. Vanderweil, July 69
Radiant Heating Design, Practical Pointers on, by R. G. Vanderweil, September 97
Radiant Heating, Electric, Economically Practical With 1c Rate, July 203
Radiant Heating Jobs, These Ideas Aid, July 64
Radiant Heating Pipes Laid On Concrete Slab, April 76
Radiant Heating Questions, Disagrees on Many, by Paul S. Park, November 107
Radiant Heating, Radiant Cooling, Hot Water Heating; Dr. Giesecke Publishes Book, May 192
Radiant Heating System, High Temperature Water for, June... 73
Radiant Heating for —32 F Weather, December 78
Radiant Heating, Time Lag in, by Warren E. Wilson, April..... 82
Radiant Jobs, Floor Construction for, January 90
Radiant Panel Heating System Solves Textile Plant Problems, by G. Lorne Wiggs, March..... 75
Radiation, Finned Pipe, Unit Heaters for Standardized Factory Building, April..... 77
Radiation, Infra-Red, How (It) Is Used for Space Heating, by Cyril Tasker, October..... 104
Radiator, Boiler Backlog, Tremendous, January..... 94
Recirculate Air from Industrial Exhaust Systems?, Lester T. Avery, September..... 120
Recirculated, Should Air Be, from Industrial Exhaust Systems, by Allen D. Brandt, August..... 69
Rectory, Night Heating of, Utilizes, Btu's in Boiler Water for, by Irwin W. Cotton, November..... 114
Refrigerating Engineers Hear Two Talks on Panel Cooling, July.. 93
Refrigeration and Air Conditioning, Offer Many Opportunities, Says, February..... 178
Refrigeration and Air Conditioning Show Opens in Cleveland January 26, December..... 110
Refrigeration Is Basic Necessity in Today's World, November..... 96
Refrigeration Cycles, Analyzing, by W. S. Bodinus, June..... 78
Refrigeration Cycles, Analyzing, by F. W. Hutchinson, May..... 79
Refrigeration Essential, Coal Regulations Prove, January..... 95
Refrigeration Piping, 85-Below-Zero, October..... 95
Refrigeration of Ships' Stores, Oct. 194
Refrigeration Standards, Meet to Establish, August..... 64
Refrigeration System, 85-Below-Zero, Being Installed at Kodak Park, July..... 80
Register, Supply, Reheaters for Each, Improve Heating and Cooling System, by Samuel R. Lewis, December 98
Reheaters for Each Supply Register Improve Heating and Cooling System, by Samuel R. Lewis, December 98
Rentschler, Dr., Retires, Advises an "Open Mind", August..... 64
Research Board To Be Set Up, Building, March..... 100
Research, Calls on Industry to Support, October..... 65
Research, Directory of Member Institutions and Review of Current, August 190
Research?, What is, September... 105
Restaurant Patrons Want Comfort, October 65
Restrict Conditioning, Gets Permission to, August..... 106
Returns, Wants Data on Sizing High Pressure, May..... 97
Rinderle Named Executive Vice President, June..... 63
Rink Piping, Ice, Fails During Wartime Shutdown, by Paul S. Park, April..... 97
Rink, Retractable Ice, Used in Night Club, July..... 75
Roofers Pump Tar from Ground Level, February..... 98

S

SMA Manual, New, Includes Data on Smoke Abatement, Automatic Controls, September..... 213
Safety Standards, ASA Lists 200, July 199
Safety-Ventilation, Humidification, Control for, November..... 87
St. Louis Leads Country With Its Smoke Law, by Raymond R. Tucker, November..... 80
St. Louis Smoke Law Work?, Does, November 80
Sampson, Will D., Can't See Radiant Cooling, March..... 91
Schaefer, E. F., Elected President, June 64
Schenk, Julius J. and McCumber, R. H., Meets Increased Central Steam Demands With 4800 Ft. Tie Line, April..... 74
Science Appears, New Magazine On Federal, March..... 82
Ships, Navy, Air Conditioning for Essential, September..... 85
Ships' Stores, Refrigeration of, October 194
Show Overlap, ACRMA Objects to Industry, July..... 63
Show, Refrigeration Air Conditioning, 72 Sign for, May..... 63
Show To Be Held Next Year, Air Conditioning, February..... 64
Shows, Industry, Previewed in HPAC, November..... 69
Sidewalk Snow Melting System, Best & Co., New York, Installs, by Harry H. Bond, September.. 90
Silos Store Coal for Plant Heating, May 81
Size Liquid Lines, Proper, Don't Overlook Importance of, by H. E. Ferrill, October 84
Slade, Frank H., High Pressure Hot Water Serves Hospital Project, October 87
Smith, Lewis, and Bessler, William, Heating the Metropolitan Life Apartment Projects, September.. 77
Smoke Law, St. Louis Leads Country With Its, by Raymond R. Tucker, November..... 80
Smoke Law Work?, Does St. Louis, November 80
Smoke Ordinance, "Low Volatile", Does Not Solve Problem, by H. B. Lammers, November..... 80
Smoke Problem, the Individual, Employ Engineering to Correct, by H. B. Lammers, December... 100
Smoking Tendency Determines Burning Oil Performance, by G. T. Kaufman, May..... 78
Snag, They Should've Stood in Bed in (78.7F below zero), December. 67
Snow Melting Coils, How to Design, by Paul S. Park, January..... 97
Snow Melting System, Sidewalk, Best & Co., New York, Installs, by Harry H. Bond, September.. 90
Snow Removal with Heat at Road Builders' Meeting, Gives Dope on Airport, by George B. Coffey, March 79
Solar Heat Use Saves Heating Fuel, March..... 88
Solids, Conduction of Heat in, October 194
Sonic Precipitation Shows Promise, December 93
Sound Insulation of Wall and Floor Constructions, December..... 199
Specification Writing, Simplified Procedure for, June..... 98
Specification Writing, Simplified Procedure for, July..... 97
Specification Writing, Simplified, Procedure for, August..... 99
Specification Writing, Simplified, Procedure for, September..... 117
Specification Writing, Simplified Procedure for, October..... 99
Specification Writing, Simplified Procedure for, November..... 111
Specifications, New, Cover Many Steel Piping Materials, March.. 202
Specs, Better, Cut Building Costs, November 69
Stacks, Gas flow from Steel, by I. A. Naman, July..... 96
Stainless Pipe and Fittings, Starts Standardization of, March..... 89
Stainless Steel, Offers Data on Atmospheric Weathering of, July 200
Stainless Steel Piping—Fabrication by Welding, by J. D. Mattimore, December 73

Stainless Steel Piping—Selection of Pipe Joints, by J. D. Mattimore, November 84
Stainless Steel Piping—Selection of Pipe Joints, December..... 89
Stainless Steel Piping—Why and Where to Use It, by J. D. Mattimore, October..... 81
Standardization, Piping, Reports on Status of, May..... 63
Standardization of Stainless Pipe and Fittings, Starts, March..... 89
Standards, Air Conditioning, ACRMA Compiles, October..... 188
Standards, ASA Issues New Listing of, October..... 190
Standards, ASTM, Latest Specifications, Test Procedures in, July.. 205
Steam for Air Conditioning Discussed by NDHA, by John F. Collins, Jr., August..... 102
Steam Demands, Central, Meets Increased With 4800 Ft Tie Line, by Julius J. Schenk and R. H. McCumber, April..... 74
Steam Jet Ejectors and Vacuum Cooling, Revises Standards on, October 190
Steam System Better Than Two Pipe?, Is One Pipe, by Samuel R. Lewis, September..... 115
Steel Corporation, "Al" Gives the Dope on, June..... 64
Steels, Austenitic, Apparent Influence of Grain Size on the High Temperature and Properties of, August 190
Steels, Austenitic Chrome-Nickel, During Exposures at 1100 to 1700 F., Changes in, August..... 190
Steiner, Kalman, Fuel Forecast . . . and What To Do About It, October 78
Steiner, Kalman and Robert H. Wilder, Redesigning Boiler Fireboxes, January..... 69
Steiner, Kalman, Testing and Rating Fuel Oils, July..... 95
Sterilization, Air Conditioning Should Include, March..... 204
Sterilization, Air, Says More Data Needed on, April..... 81
Sterilization May Become "Essential", Air, February..... 71
Stock Exchange, New York, Air Conditioning the, by Donald A. Kepler, April..... 69
Stock Exchange, New York, Air Conditioning the, by Donald A. Kepler, June..... 84
Stock Exchange, New York, Air Conditioning the, by Donald A. Kepler, August..... 87
Stoker Fired Boilers, Setting Heights for, January..... 96
Stoker Makers' Meeting Optimistic, July 63
Stoker Manufacturers, Gives Industry Data, SMA Manual Lists, November 218
Stoker Sales Run Below Last Year, December 67
Stokers, Underfeed, Outlines Factors Affecting the Operation of, January 79
Store, Modern, Unit Heaters Meet Architectural Requirements of, by Robert V. Williams, May... 85
Store Windows, Preventing Condensation on, May..... 96
Storm, Robert R., Complete Information Needed for the Best Use of Well Water, December.. 104
Sturm, William, High Temperature Water Jobs Need Careful Study, December 105
Sturm, William, Vertical Air Distribution in Tall Buildings, June. 69
Sturm, William, Vertical Air Distribution in Tall Buildings, Sept.. 93
Submarines, Heat Pump Cools, Mar. 92
Swimming Pool Condensation Problems, June..... 78
Swimming Pools, Indoor, Condensation Problems Serious with, by Samuel R. Lewis, May..... 99

T

Tank, Pipe Coils Embedded in Concrete Mat Heat, by Hans J. Lang, August 94
Tank, Ventilation Hood, Semi-Lateral, Controls Contamination, Cuts Costs, by William P. Battista, January..... 85
Tasker, Cyril, Data on Heat Loss from Underground Walls Given in Air Conditioning Report, Mar.. 96
Tasker, Cyril, Heating in the U. S. A., February..... 79
Tasker, Cyril, High Pressure Hot Water Heating, February..... 78
Tasker, Cyril, How Infra-Red Radiation Is Used for Space Heating, October..... 104
Television, REMA Sees Big Place for Air Conditioning in, March.. 74
Textile Plant Problems, Radiant Panel Heating System Solves, by G. Lorne Wiggs, March..... 75
Theater, Air Distribution in a, September 113
Theater Return Air Intakes, Readers Answer Question on, August. 107
Tie Line, New Underground, Boosts Tail-End Pressure, by Percy A. Hyde, November..... 94
Train and Bus Conditioning, Space, Weight Govern, April..... 73
"Train of Tomorrow", General Motors Experimental, Is New and Different, September..... 105
Traps, Steam, and Air Vents Described; Operation, Application of, July 200
Traps, Steam, Check Operation of, by Edward W. Longner, April.. 86
Traveling in Comfort (railroad car air conditioning), February. 94
Trichloroethylene in Atmosphere, New Standard Limits Concentrations of, June..... 188
"Trouble Jobs, "I Learn Most from, by Samuel R. Lewis, February.. 95
Tucker, Raymond R., St. Louis Leads Country With Its Smoke Law, November..... 80
Tunnel, 700 Ft Piping, for New Diesel Plant, June..... 97
Tyler, Eph. A., Stop Building Heat Leaks to Save Fuel This Winter, November 90

U

Underground, Natural Gas Stored, in Steel Pipe, August..... 77
Underground Tie Line, New, Boosts Tail-End Pressure, by Percy A. Hyde, November..... 94
Unit Heater Articles, Announces Awards For, February..... 63
Unit Heater Control, Practical Suggestions on, May 95
Unit Heater and Fan Solve a Launderette Comfort Problem, July.. 71
Unit, Heater System, Zoned, How to Control, December..... 94
Unit Heaters, Finned Pipe Radiation for Standardized Factory Building, April..... 77
Unit Heaters Have Advantages in Many Heating Applications, by P. J. Menden, March..... 87
Unit Heaters Meet Architectural Requirements of Modern Store, by Robert V. Williams, May.... 85
Units, Direct Fired, Meet Changed Heating Needs, by Arnold A. Kosarin, August..... 93
University Enrollments Stress Advantages of Air Conditioning, Big, February..... 93

V

Valve, Iron, Standards Now in Print, October 192
Valve Manufacturer, Founder's Great Grandson Heads, April.... 63
Valves, Pressure Losses in, by E. B. Pool, June..... 74
Valves, Steel, Welding of High Temperature, High Pressure, August 190
Vanderweil, R. G., Practical Pointers on Radiant Heating Design, July 69
Vanderweil, R. G., Practical Pointers on Radiant Heating Design, September 97
Vanderweil, R. G., Radiant Cooling Must Be Designed Properly, April 96
Vapor Barriers, Condensation in Walls, Studied, February..... 77
Vapor Pressure—What It Is and Does, by E. R. Queer and E. R. McLaughlin, August..... 78
Vapor Resistant Coatings for Insulating Board, Recommends, Jan.. 79
Ventilating Troubles, Wrong Exhaust Opening Can Cause, by Samuel R. Lewis, April..... 94
Ventilation, Color, Aid Comfort at Coke Works, August..... 64
Ventilation Failures, How to Guard Against, September..... 92
Ventilation, Foundry, by Jim Black and Lester T. Avery, March.... 71
Ventilation, Foundry, by Jim Black and Lester T. Avery, April..... 78
Ventilation, Foundry, by Jim Black and Les Avery, May..... 89
Ventilation Hood, Semi-Lateral Tank, Controls Contamination, Cuts Costs, by William P. Battista, January..... 85
Ventilation, Natural, Narrow Industrial Buildings Better Suited to, July..... 199
Ventilation, Warming, and Cooling, Modern Views on, December..... 199
Vernon, J. R., "Lazy" Zoning Causes Trouble, August..... 109
Vertical Air Distribution, by W. S. Bodinus, October..... 96
Vertical Air Distribution in Tall Buildings, by William Sturm, June 69
Vertical Air Distribution in Tall Buildings, by William Sturm, September 93

W

Wallstrom, H. V., Methods of Making Piping Flexibility Analyses, May 69
Wangaard, Frederick F., Suggests Graphs or Charts for Data on Wood Heat Conductivity, March. 97
Water Heating, Summer-Winter, Surveyed, July..... 100
Water Jobs, High Temperature, Need Careful Study, by William Sturm, December..... 105
Water Requirements, Electrical and —Planning To Air Condition?, August 81
Water from Wells, by G. E. Clancy, November 75
Wax Research Tower, Air Conditioned, Started, December..... 68
Weitz, C. E., Charts Help Solve Lighting Problems, October..... 96
Weld Lead Pipe, How to, by L. S. Bowser, September..... 91
Weld, Learning to, October..... 194
Welded Design Awards Announced, December 68
Welding Alloy Piping, Likes Article on, February..... 64
Welding, Arc, Lessons in, November 218
Welding Electrodes, Stainless Steel, Cover Tests, Specifications on, July 199
Welding, Fabrication by, Stainless Steel Piping, by J. D. Mattimore, December 73
Welding Operator, Says Guided Bend Test Unfair to, November. 214
Welding, Pipe, Business Outlook, July 88
Welding, Resistance, Manual Brought Up to Date, April..... 184
Welding Society, Harold O. Hill Heads, December..... 99
Welding Technique, Shows Roll, July 64
Well, How to Use Groundwater Without Pumping It from, by G. E. Clancy, December..... 99
Well Water, Complete Information Needed for the Best Use of, by Robert R. Storm, December..... 105
Wells, Water from, by G. E. Clancy, November 75
Whiteley, Robert H., Dies Suddenly, May 64
Wiggs, G. Lorne, Radiant Panel Heating System Solves Textile Plant Problems, March..... 75
Wilder, Robert H. and Kalman Steiner, Redesigning Boiler Fireboxes, Jan..... 69
Williams, Robert V., Unit Heaters Meet Architectural Requirements of Modern Store, May..... 85
Wilson, L. F., How to Figure Moisture in Compressed Air, Nov. 82
Wilson, Warren E., Time Lag in Radiant Heating, April..... 82
Window?, Confectionery, How Stop Condensation on, February..... 98
Windows, Confectionery, How to Stop Condensation on, April..... 98
Windows, Store, Preventing Condensation on, May..... 96
Windows, Store, Preventing Condensation on, July 100
Wood Heat Conductivity, Suggests Graphs or Charts for Data on, by Frederick F. Wangaard, March. 97
Wyatt Joins R. B. Hayward Co., February 64

Y

York Corp. Production "At Highest Rate," August..... 86
Younkin, Gavin, Processed Air Important Prop on Hollywood Movie Sets, September 111

Z

Zoned Unit Heater System, How to Control, December..... 94
Zoning, "Lazy", Causes Heating, Cooling Troubles, by Samuel R. Lewis, July..... 86
Zoning, "Lazy", Causes Trouble, by J. R. Vernon, August..... 109

Journal of American Society of Heating and Ventilating Engineers

January-December 1947 — Vol. 19, Nos. 1-12

A

Accountant's Report.....Mar. 127
Addams, Paul, Elected President Fitzgibbons .....June 123
Adjustments of Human Beings to Sudden Change in Environment, Physiological, by Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock .....July 101
Adlam, T. N., Writes Radiant Heating Text .....Oct. 112
AIEE Elects Officers.....Aug. 135
Air-Borne Micro-Organisms, Determining and Reducing the Concentration of, by Matthew Luckiesh and A. H. Taylor.....Jan. 113
Air Conditioned Offices, Comfort Reactions of 275 Workers During Occupancy of, by F. B. Rowley, R. C. Jordan, and Warren E. Snyder .....June 113
Air Flow at Suction Openings, Nature of, by Allen D. Brandt, Russell J. Steffy, and Richard G. Huebscher .....Feb. 101
Air Heating Systems, Proposed Design Procedure for Large Mechanical Warm, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose.....May 108
Air Required for Living Spaces, Minimal Replenishment, by William V. Consolazio and Louis J. Pecora .....Mar. 103
Air Sterilization, Triethylene Glycol Vapor Distribution for, by Edward Bigg, B. H. Jennings, and F. C. W. Olson.....May 103
Air Temperature Gradients in a Panel Heated Room, by J. M. Ayres and B. W. Levy.....Oct. 113
Albright Reorganizes.....Sept. 120
Algren, A. B., Nominee for 1948 Committee on Research **(three-year term)**.....Dec. 136
Allen, DeWitt M., Nominee for Member of 1948 Council (three-year term) .....Nov. 130
A Method for Improving the Effective Temperature Index, by C. P. Yaglou.....Sept. 131
Discussion .....Sept. 134
A Method of Fire Control, by A. C. Bartlett .....Nov. 117
Anderson Medal, J. H. Walker Receives F. Paul.....Dec. 135
Annual Meeting in February..Sept. 141
Army Honors C. J. Merritt..Feb. 119
ASA Considers Metric Proposal Aug. 118
ASHVE Members Become Fellows in ASRE .....Oct. 122
Associate Group Assists Membership Committee.....Aug. 134
Avery, Lester T., Nominee for 1948 Officer .....Oct. 125
Ayres, J. M., and B. W. Levy, Air Temperature Gradients in a Panel Heated Room.....Oct. 113

B

Baker, H. C., Dies.....July 125
Bakery, The Air Conditioning of Processes in the Bread, by H. R. Gable .....Oct. 107
Bartlett, A. C., A Method of Fire Control .....Nov. 117
Battelle Names Assistant Directors .....Nov. 131
Big Attendance at Society's 54th Annual Meeting.....Dec. 138
Bigg, Edward, B. H. Jennings, and F. C. W. Olson, Triethylene Glycol Vapor Distribution for Air Sterilization .....May 103
Bleier, F. P., Opens Consulting Office .....June 123
Blumenthal's, M. I., Death Announced .....Oct. 126
Boggs, Dennis, Appointed Chief Engineer .....June 124
Bornstein Announces Opening.Jan. 121
Brandt, Allen D., Russell J. Steffy, and Richard G. Huebscher, Nature of Air Flow at Suction Openings .....Feb. 101
Brandt, F. C., Receives New Post .....Mar. 138
Bread Bakery, The Air Conditioning of Processes in the, by H. R. Gable .....Oct. 107
Brinker, H. A., Dies.....Oct. 126
Building Materials, Thermal Properties of, by H. B. Nottage..Sept. 127
Building Structure Temperatures and Heat Flow, Effect of Floor Slab on, by C. F. Kayan....June 103
Bush, Dr. Vannevar, Receives Hoover Medal .....Feb. 118

C

Campbell, T. F., Dies at 57....Sept. 144
Candidates for Membership and Candidates Elected:
Jan. 127
Feb. 124
Mar. 139
Apr. 133
May 129
June 131
July 132
Aug. 139
Sept. 142
Oct. 128
Nov. 134
Dec. 145
Case, Donald, In New Appointment .....Dec. 137
Chester & Price Named Canadian Representatives .....June 134
Chicago Contractors Elect Officers (C. H. Schicht, R. W. Lawinger) .....Sept. 140
Clark to Represent American Air Filter (L. O. Ray Clark) Sept. 140
Climatological Data in Heating and Cooling Design, Use of, by H. E. Landsberg .....Sept. 121
Comfort Reactions of 275 Workers During Occupancy of Air Conditioned Offices, by F. B. Rowley, R. C. Jordan, and Warren E. Snyder .....June 113
Comfort Standards Feature Semi-Annual Meeting Discussions .....July 123
Committee on Panel Heating and Cooling .....Dec. 140
Committee on Research, 1946 Report of, by L. P. Saunders...Mar. 115
Concentration of Air-Borne Micro-Organisms, Determining and Reducing the, by Matthew Luckiesh and A. H. Taylor.....Jan. 113
Conditioning of Processes in the Bread Bakery, The Air, by H. R. Gable .....Oct. 107
Consolazio, W. V., and Louis J. Pecora, Minimal Replenishment Air Required for Living Spaces .....Mar. 103
Contract Awards Gain Sharply .....Nov. 122
Control of Panel Heating Systems, Response and Lag in the, by F. W. Hutchinson .....Feb. 111
Cook, B. F., at New Location..Apr. 127
Cooling Design, Use of Climatological Data in Heating and, by H. E. Landsberg .....Sept. 121
Copper Tubing, Design Method for Panel Heating Systems Using, by R. G. Vanderweil.....Nov. 123
Coronado Awaits ASHVE.....May 119
Coronado Meeting Topics Stimulate Discussion .....Aug. 119
Council Report .....Mar. 126
Crump, A. L., Forms New Company .....Aug. 134
Cushing, R. C., in New Post..June 124

D

Davies, G. W., Dunedin, N. Z. Recently Elected Life Member of ASHVE .....Nov. 131
Deaths:
Baker, H. C. .....July 125
Black, H. G. .....Apr. 127
Blumenthal, M. I. .....Oct. 126
Brinker, H. A. .....Oct. 126
Campbell, T. F. .....Sept. 144
Cornwall, G. I. .....May 128
Denham, H. S. .....Aug. 137
Deterling, W. C. .....Feb. 119
Devlin, John .....May 128
Ebert, W. A. .....Dec. 148
Febrey, E. J. .....Feb. 120
Goodwin, Samuel .....June 124
Hahn, R. F. .....Sept. 144
Hamilton, H. S. .....June 124
Hill, J. A. .....May 127
Hodge, W. B. .....July 125
Jenkins, C. W. .....Dec. 148
Jones, W. T. .....Aug. 136
Mandell, T. P. .....Sept. 144
Mathis, Henry .....Aug. 136
McIntyre, W. N. .....Nov. 133
McMullen, Earle W. .....Nov. 133
Morgan, R. C. .....Mar. 139
Mosher, C. H. .....Oct. 126
Parkes, C. H. .....May 132
Reynolds, W. V. .....Mar. 139
Schlick, P. F. .....May 128
Steinhorst, T. F. .....June 124
Wheler, A. G. .....Aug. 137
Whitton, C. F. .....Aug. 137
Wickenden, W. E. Dr. .....Oct. 126
Wilde, R. S. M. .....Apr. 133
Winter, C. L. .....Aug. 137
Deep Sea Fishing Trip, by Lloyd Helms .....Aug. 132
Dehumidification Equipment, Rating Dynamic, by E. R. Queer, and E. R. McLaughlin.....Jan. 103
Denham, H. S., Dies at 65....Aug. 137
Design Method for Panel Heating Systems Using Copper Tubing, by R. G. Vanderweil.....Nov. 123
Design Procedure for Large Mechanical Warm Air Heating Systems, Proposed, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose .....May 108
Design Temperatures, Determination of Outside, by W. L. Holladay .....July 117
Determination of Outside Design Temperatures, by W. L. Holladay .....July 117

Determining and Reducing the Concentration of Air-Borne Micro-Organisms, by Matthew Luckiesh and A. H. Taylor..**Jan.** 113
Determining the Economical Thickness of Pipe Insulation, Rapid Method of, by Utley W. Smith ..... **Oct.** 118
Determining the Health Hazards Arising From the Inhalation of Various Chemicals, Methods Used in, by Francis F. Heyroth ..... **Jan.** 109
Distribution for Air Sterilization, Triethylene Glycol Vapor, by Edward Bigg, B. H. Jennings, and F. C. W. Olson.... ....**May** 103
Drafting Standard Printed....**Jan.** 121
Ducts, Friction Equivalents for Round, Square and Rectangular, by R. G. Huebscher.....**Dec.** 127
Dynamic Dehumidification Equipment, Rating, by E. R. Queer and E. R. McLaughlin .....**Jan.** 103

E

Eastwood, E. O., Retires From Executive Posts .....**Feb.** 118
Ebert, W. A., Dies After Brief Illness .....**Dec.** 148
Economical Thickness of Pipe Insulation, Rapid Method of Determining the, by Utley W. Smith ..... **Oct.** 118
Economic and Technical Aspects of the Heat Pump, by W. E. Johnson ..... **Dec.** 119
Effect of Floor Slab on Building Structure Temperatures and Heat Flow, by C. F. Kayan.....**June** 103
Effective Temperature Index, A Method for Improving the, by C. P. Yaglou .....**Sept.** 131
8th Exposition .....**Sept.** 141
Elected to Life Membership in ASHVE .....**Sept.** 126
Engineers Seek Books and Funds .....**Apr.** 127
Environment, Physiological Adjustments of Human Beings to Sudden Change in, by Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock ....**July** 101
Experimental Studies on Panel Heating Tube Spacing, by B. F. Raber, and F. W. Hutchinson .....**Aug.** 111

F

Fahnestock, Maurice K., Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, and Fork K. Hick, Physiological Adjustments of Human Beings to Sudden Change in Environment .....**July** 101
Fairbairn, J. K., Joins Farr Co. .....**Nov.** 131
Father Knickerbocker Host to ASHVE for 54th Annual Meeting .....**Nov.** 128
Faust Heads New G-E Division .....**July** 125
53rd Annual Meeting, Hotel Statler Cleveland, Ohio.....**Mar.** 123
Fire Control, A Method of, by A. C. Bartlett .....**Nov.** 117
Fiske Resigns As ASRE Secretary .....**Feb.** 118
Floor Slab on Building Structure Temperatures and Heat Flow, Effect of, by C. F. Kayan...**June** 103
Forced Convection Along a Smooth Flat Surface, Heat Transfer by, by G. V. Parmelee and R. G. Huebscher .....**Aug.** 115
Formation of Engineers Club of Washington .....**Nov.** 122
Fourth Oregon State Air Conditioning Conference.....**May** 118
F. Paul Anderson Medal, J. H. Walker Receives.....**Dec.** 135
Friction Equivalents for Round, Square and Rectangular Ducts, by R. G. Huebscher.....**Dec.** 127

G

Gable, H. R., The Air Conditioning of Processes in the Bread Bakery .....**Oct.** 107
G. E. Announces Appointments **Dec.** 126
G. E. Announces Death of W. C. Deterling .....**Feb.** 119
G. E. Announces Promotions (R. U. Berry) .....**Apr.** 127
Giannini, M. C., Nominee for 1948 Committee on Research (three-year term) .....**Dec.** 136
Glickman, Nathaniel, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock, Physiological Adjustments of Human Beings to Sudden Change in Environment .....**July** 101
Glycol Vapor Distribution for Air Sterilization, Triethylene, by Edward Bigg, B. H. Jennings, and F. C. W. Olson.....**May** 103
Golf, by Bob Johnson..... **Aug.** 133
Goodwin, Samuel, Life Member, Dies .....**June** 124
Gradients in a Panel Heated Room, Air Temperature, by J. M. Ayres and B. W. Levy.....**Oct.** 113
Guide Committee Report.....**Apr.** 104

H

Hackett Promoted by Bell & Gossett .....**June** 122
Hahn, R. F., Dies at 36.....**Sept.** 144
Hamilton, H. S., Passes Away.**June** 124
Hamlet, F. Aylmer, Nominee for Member of 1948 Council (three-year term) .....**Nov.** 130
Hankins, R. P., Consultant....**Oct.** 117
Health Hazards Arising From the Inhalation of Various Chemicals, Methods Used in Determining the, by Francis F. Heyroth.....**Jan.** 109
Heat Flow, Effect of Floor Slab on Building Structure Temperatures and, by C. F. Kayan..**June** 103
Heat, Human Tolerance to, by Willard Machle .....**Feb.** 109
Heat Pump, Economic and Technical Aspects of the, by W. E. Johnson .....**Dec.** 119
Heat Transfer by Forced Convection Along a Smooth Flat Surface, by G. V. Parmelee and R. G. Huebscher .....**Aug.** 115
Heated Room, Air Temperature Gradients in a Panel, by J. M. Ayres and B. W. Levy.....**Oct.** 113
Heating and Cooling Design, Use of Climatological Data in, by H. E. Landsberg.....**Sept.** 121
Heating Design, Meteorological Instruments and, by W. E. K. Middleton .....**May** 115
Heating Systems, Proposed Design Procedure for Large Mechanical Warm Air, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose .....**May** 108
Heating Systems, Response and Lag in the Control of Panel, by F. W. Hutchinson..... **Feb.** 111
Heating Systems Using Copper Tubing, Design Method for Panel, by R. G. Vanderweil.....**Nov.** 123
Heyroth, Francis F., Methods Used in Determining the Health Hazards Arising From the Inhalation of Various Chemicals.....**Jan.** 109
Hick, Ford K., Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, and Maurice K. Fahnestock, Physiological Adjustments of Human Beings to Sudden Change in Enviroment ..... **July** 101
Hill, Jared A., Passes Away on Coast .....**May** 127
Hodge, W. B., Dies at 75....**July** 125
Hoffman Appoints E. L. Malm..**Apr.** 127
Holladay, W. L, Determination of Outside Design Temperatures .....**July** 117
Holt, James, President, ESNE **Aug.** 134
Homer Addams Honored.....**Mar.** 136
Honeywell Chicago Office in New Location .....**Aug.** 135
Honor O. J. Prentice..... **Aug.** 136
Huebscher, R. G., and G. V. Parmelee, Heat Transfer by Forced Convection Along a Smooth Flat Surface .....**Aug.** 115
Huebscher, R. G., Friction Equivalents for Round, Square and Rectangular Ducts.....**Dec.** 127
Huebscher, Richard G., Russell J. Steffy, and Allen D. Brandt, Nature of Air Flow at Suction Openings .....**Feb.** 101
Human Beings to Sudden Change in Environment, Physiological Adjustments of, by Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock.....**July** 101
Human Tolerance to Heat, by Willard Machle.....**Feb.** 109
Hutchinson Accepts California Appointment .....**Sept.** 130
Hutchinson, F. W., and B. F. Raber, Experimental Studies on Panel Heating Tube Spacing .....**Aug.** 111
Hutchinson, F. W., Nominee for 1948 Committee on Research (three-year term) .....**Dec.** 136
Hutchinson, F. W., Response and Lag in the Control of Panel Heating Systems.....**Feb.** 111

I

IHVE Holds 1947 Jubilee.....**Nov.** 131
Improving the Effective Temperature Index, A Method for, by C. P. Yaglou.....**Sept.** 131
Industrial Hygiene Meeting Scheduled in Buffalo.....**Apr.** 126
Inhalation of Various Chemicals, Methods Used in Determining the Health Hazards Arising From the, by Francis F. Heyroth..**Jan.** 109
In Old New York 54th Annual Meeting of ASHVE.....**Oct.** 122
Inouye, Tohru, Nathaniel Glickman, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock, Physiological Adjustments of Human Beings to Sudden Change in Environment .....**July** 101
Instruments and Heating Design, Meteorological, by W. E. K. Middleton .....**May** 115

J

Jenkins, C. W., Washington, D. C. Member Dies at 36....**Dec.** 148
Jennings, B. H., Edward Bigg, and F. C. W. Olson, Triethylene Glycol Vapor Distribution for Air Sterilization .....**May** 103
Johnson, Allen, Opens Consulting Office .....**Jan.** 117
Johnson, B. A., Consulting Engineer .....**July** 116
Johnson, C. W., Nominee for 1948 Committee on Research (three-year term) .....**Dec.** 137
Johnson, W. E., Economic and Technical Aspects of the Heat Pump .....**Dec.** 119
Jones, W. T., Past President, Dies .....**Aug.** 136
Jordan, R. C., R. B. Rowley and Warren E. Snyder, Comfort Reactions of 275 Workers During Occupancy of Air Conditioned Offices .....**June** 113
June is Semi-Annual Meeting Time .....**Apr.** 124

K

Kayan, C. F., Effect of Floor Slab on Building Structure Temperatures and Heat Flow.....**June** 103
Keeton, Robert W., Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Ford K. Hick, and Maurice K. Fahnestock, Physiological Adjustments of Human Beings to Sudden Change in Environment .....**July** 101
Kimball Names Associate.....**Aug.** 135
Kincaid, W. V., in New Post..**Feb.** 119
Konzo, S., R. J. Martin, D. S. Levinson, and R. W. Roose, Proposed Design Procedure for Large Mechanical Warm Air Heating Systems .....**May** 108

L

Laboratory Mortgage Retirement Plan ..... **Jan.** 120

Lag in the Control of Panel Heating Systems, Response and, by F. W. Hutchinson..... **Feb.** 111

Landsberg, H. E., Use of Climatological Data in Heating and Cooling Design..... **Sept.** 121

Large Mechanical Warm Air Heating Systems, Proposed Design Procedure for, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose..... **May** 108

Leopold, Charles S., Nominee for Member of 1948 Council (three-year term) ..... **Nov.** 130

Levinson, D. S., S. Konzo, R. J. Martin and R. W. Roose, Proposed Design Procedure for Large Mechanical Warm Air Heating Systems..... **May** 108

Levy, B. W. and J. M. Ayres, Air Temperature Gradients in a Panel Heated Room..... **Oct.** 113

Life Member Dies at 71 (Clarence H. Mosher)..... **Oct.** 126

Life Member Dies at 87 (G. I. Cornwall) ..... **May** 128

Life Member E. J. Febrey Dies In Washington ..... **Feb.** 120

Living Spaces, Minimal Replenishment Air Required for, by William V. Consolazio and Louis J. Pecora ..... **Mar.** 103

Luckiesh, Matthew and A. H. Taylor, Determining and Reducing the Concentration of Air-Borne Micro-Organisms ..... **Jan.** 113

M

Machle, Willard, Human Tolerance to Heat..... **Feb.** 109

Mandell, T. P., in Tragic Plane Crash ..... **Sept.** 144

Martin, R. J., S. Konzo, D. S. Levinson, and R. W. Roose, Proposed Design Procedure for Large Mechanical Warm Air Heating Systems ..... **May** 108

McIntyre, W. N., Dies..... **Nov.** 133

McLaughlin, E. R., and E. R. Queer, Rating Dynamic Dehumidification Equipment..... **Jan.** 103

McMullen, Earle W..... **Nov.** 133

Mechanical Warm Air Heating Systems, Proposed Design Procedure for Large, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose..... **May** 108

Meteorological Instruments and Heating Design, by W. E. K. Middleton ..... **May** 115

Method of Determining the Economical Thickness of Pipe Insulation, Rapid, by Utley W. Smith ..... **Oct.** 118

Methods Used in Determining the Health Hazards Arising From the Inhalation of Various Chemicals, by Francis F. Heyroth..... **Jan.** 109

Micro-Organisms, Determining and Reducing the Concentration of Air-Borne, by Matthew Luckiesh and A. H. Taylor..... **Jan.** 113

Middleton, W. E. K., Meteorological Instruments and Heating Design ..... **May** 115

Minimal Replenishment Air Required for Living Spaces, by William V. Consolazio and Louis J. Pecora ..... **Mar.** 103

Minnesota Conference and Exposition ..... **Apr.** 132

Morgan, R. C., Dies in 74th Year ..... **Mar.** 139

N

Nature of Air Flow at Suction Openings, by Allen D. Brandt, Russell J. Steffy, and Richard G. Huebscher ..... **Feb.** 101

NDHA Proceedings Published..**Oct.** 112

New Appointments at Kimberly-Clark, (L. E. Pasek, and M. W. Keyes) ..... **Apr.** 133

New Listing of Cast Iron Radiators ..... **Jan.** 108

New Name for The Aviation Corp ..... **July** 116

New Radiant Heating Equipment Firm Announced. (W. R. Norte) ..... **Feb.** 119

1946 Report of Committee on Research by L. P. Saunders.... **Mar.** 115

1948 Heating and Air Conditioning Exposition in New York Heavily Booked..... **Apr.** 107

1948 Nominations..... **Oct.** 123

Nominees for Members of 1948 Council (three-year term-DeWitt M. Allen, F. Aylmer Hamlet, Charles S. Leopold, Howard E. Sproull) ..... **Nov.** 130

Nominees for 1948 Committee on Research (three-year term-A. B. Algren, M. C. Giannini, F. W. Hutchinson, C. W. Johnson, W. E. Zieber) ..... **Dec.** 136

Nominees for 1948 Officers.. **Oct.** 124

Noted Chemical Engineer Dies (Earle W. McMullen)..... **Nov.** 133

Nottage, H. B., Thermal Properties of Building Materials..... **Sept.** 127

Nutting and Pound Receive Promotions ..... **June** 123

O

Offner, Alfred J., Member of International Jury..... **June** 122

Olson, F. C. W., B. H. Jennings and Edward Bigg, Triethylene Glycol Vapor Distribution for Air Sterilization ..... **May** 103

Openings, Nature of Air Flow at Suction, by Allen D. Brandt, Russell J. Steffy, and Richard G. Huebscher ..... **Feb.** 101

Outside Design Temperatures, Determination of, by W. L. Holladay ..... **July** 117

P

Panel Heated Room, Air Temperature Gradients in a, by J. M. Ayres and B. W. Levy.... **Oct.** 113

Panel Heating Committee Being Organized ..... **Aug.** 134

Panel Heating Conference Approves ASHVE as Coordinator ..... **Apr.** 123

Panel Heating Systems, Response and Lag in the Control of, by F. W. Hutchinson..... **Feb.** 111

Panel Heating Systems Using Copper Tubing, Design Method for, by R. G. Vanderweil..... **Nov.** 123

Panel Heating Tube Spacing, Experimental Studies on, by B. F. Raber and F. W. Hutchinson **Aug.** 111

Parker, Dudley, Illinois Eastern Representative ..... **Feb.** 118

Parkes, C. H., Dies..... **May** 132

Parmelee, G. V., and R. G. Huebscher, Heat Transfer by Forced Convection Along a Smooth Flat Surface ..... **Aug.** 115

Participating in 1946 Research Program ..... **Mar.** 120

Pecora, Louis J., and William V. Consolazio, Minimal Replenishment Air Required for Living Spaces ..... **Mar.** 103

Penney, G. W., Appointed Professor ..... **Sept.** 130

Perfex Announces New Officers (C. E. Lewis, Julius K. Luthe) ..... **Feb.** 119

Permanent World Engineering Conference ..... **Oct.** 117

Personality Tops Scholarship in Engineering Survey..... **May** 107

Physiological Adjustments of Human Beings to Sudden Change in Environment, by Nathaniel Glickman, Tohru Inouye, Stanley E. Telser, Robert W. Keeton, Ford K. Hick, and Maurice K. Fahnestock ..... **July** 101

Pipe Insulation, Rapid Method of Determining the Economical Thickness of, by Utley W. Smith ..... **Oct.** 118

President's Report..... **Mar.** 125

Procedure for Large Mechanical Warm Air Heating Systems, Proposed Design, by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose..... **May** 108

Proceedings of 53rd Annual Meeting ASHVE (concluded from March Journal)..... **Apr.** 103

Processes in the Bread Bakery, The Air Conditioning of, by H. R. Gable..... **Oct.** 107

Profs. Queer and McLaughlin as Consultants ..... **June** 122

Program, Semi-Annual Meeting, 1947 ..... **May** 120

Properties of Building Materials, Thermal, by H. B. Nottage..**Sept.** 127

Proposed Design Procedure for Large Mechanical Warm Air Heating Systems by S. Konzo, R. J. Martin, D. S. Levinson, and R. W. Roose..... **May** 108

Pump, Economic and Technical Aspects of the Heat, by W. E. Johnson ..... **Dec.** 119

Q

Queer, E. R. and E. R. McLaughlin, Rating Dynamic Dehumidification Equipment..... **Jan.** 103

R

Raber, B. F., and F. W. Hutchinson, Experimental Studies on Panel Heating Tube Spacing **Aug.** 111

Rapid Method of Determining the Economical Thickness of Pipe Insulation, by Utley W. Smith ..... **Oct.** 118

Rating Dynamic Dehumidification Equipment by E. R. Queer and E. R. McLaughlin..... **Jan.** 103

Reactions of 275 Workers during Occupancy of Air Conditioned Offices, Comfort, by F. B. Rowley, R. C. Jordan, and Warren E. Snyder ..... **June.** 113

Reducing the Concentration of Air-Borne Micro-Organisms, Determining and, by Matthew Luckiesh and A. H. Taylor..... **Jan.** 113

Reid, H. P., Promoted..... **Mar.** 138

Reid, W. T., Joines Battelle.. **Mar.** 138

Replenishment Air Required for Living Spaces, Minimal, by William V. Consolazio and Louis J. Pecora ..... **Mar.** 103

Report of the Director of Research ..... **Mar.** 117

Response and Lag in the Control of Panel Heating Systems, by F. W. Hutchinson..... **Feb.** 111

Research, 1946 Report of Committee on, by L. P. Saunders..... **Mar.** 115

Reynolds, W. V., Dies..... **Mar.** 139

Roose, R. W., S. Konzo, R. J. Martin, and D. S. Levinson, Proposed Design Procedure for Large Mechanical Warm Air Heating Systems ..... **May** 108

Roth, J. L., G. E. Announces Appointments ..... **Dec.** 126

Rowley, F. B., R. C. Jordan and Warren E. Snyder, Comfort Reactions of 275 Workers During Occupancy of Air Conditioned Offices ..... **June** 113

S

Saunders, L. P., 1946 Report of Committee on Research..... **Mar.** 115

Scott, C. E., Joins The Rittling Corp. ..... **Feb.** 118

Secretary's Report..... **Mar.** 127

Seeley, Lauren E., Nominee for 1948 Officer ..... **Oct.** 125

Sherman, R. A., Battelle Names Assistant Directors..... **Nov.** 131

Silver Anniversary Edition-Guide 1947 ..... **Apr.** 126

Slab on Building Structure Temperatures and Heat Flow, Effect of Floor, by C. F. Kayan.... **June** 103

Smith, Utley, W., Rapid Method of Determining the Economical Thickness of Pipe Insulation **Oct.** 118

Smooth Flat Surface, Heat Transfer by Forced Convection Along a, by G. V. Parmelee and R. G. Huebscher ..... **Aug.** 115

Snyder, Warren E., F. B. Rowley, and R. C. Jordan, Comfort Reactions of 275 Workers During Occupancy of Air Conditioned Offices ..... **June** 113

Sproull, Howard E., Nominee for Member of 1948 Council (three-year term) ..... **Nov.** 131